

ABSTRACT OF THE DISCLOSURE

There is provided a laser processing apparatus, a
multilayer printed wiring board manufacturing apparatus, and
5 a manufacturing method to form via holes of ultra-fine diameter.
The laser beam from the CO₂ laser oscillator (60) is converted
to the shortened wavelength beam by a tellurium crystal (94)
to control diffraction of the laser beam. Simultaneously, when
the laser beam is condensed, a limit value of the condensation
10 limit is reduced. Thereby, the spot diameter of laser beam is
reduced and a hole for via hole is bored on the interlayer
insulation resin on a substrate (10). Therefore, even when the
laser beam output is raised to form a deeper hole, the hole
diameter is not widened and thereby a hole for a small diameter
15 via hole can be formed.